



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,460	01/18/2002	Norbert Moszner	20959/1661 (P 58792)	3711

7590

10/04/2004

Joseph M. Noto  
NIXON PEABODY LLP  
Clinton Square  
P.O. Box 31051  
Rochester, NY 14603

EXAMINER
----------

ZIMMER, MARC S

ART UNIT	PAPER NUMBER
----------	--------------

1712

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/053,460

**Applicant(s)**

MOSZNER ET AL.

**Examiner**

Marc S. Zimmer

**Art Unit**

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☒ Claim(s) 2 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### ***Claim Objections***

Claim 2 is objected to because the placement of "sulfonate ( $-\text{SO}_3^-$ ) or phosphonate ( $\text{PO}_3^-$ ), particularly preferably carboxylate ( $\text{COO}^-$ )" makes it appear as though these are supposed to be incarnations of  $\text{R}^K$ , which they clearly are not.

Claim 6 is objected to because the word "equalized" should be "neutralized". To say that charges of one type are equalized has no meaning in a chemical context.

### ***Claims Analysis***

Applicant is advised that the word "dental" is, in the Examiner's estimation, merely a recitation of intended use equivalent to, for example, "a material for preparing dental formulations". Section 2112.02 of the MPEP provides direction as to how phrases such as this are to be treated: "If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999). See also *Rowe v. Dror*, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997) ("where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation"); *Kropa v. Robie*, 187 F.2d at 152, 88 USPQ2d at 480-81 (preamble is not a limitation where claim is directed to a product and the preamble merely recites a property inherent in an old product defined by the remainder of the claim).

Because the emphasized phrase does not serve to provide a definition of one of the claim limitations set forth in the claim, or breath life into the claim as it were, it will not be assessed patentable weight for the purpose of comparing the instant invention against the related prior art.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

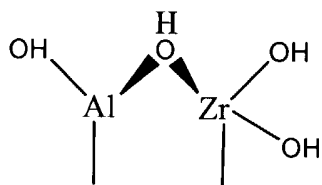
Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Nass et al., U.S. patent # 5,064,877. Nass discloses a method of chemically incorporating an inorganic cluster into a larger polymer matrix by first preparing a cluster compound bearing polymerizable moieties. The cluster is prepared by reacting an inorganic compound  $MR_n$  with an organic compound A featuring a complexing moiety X and a polymerizable group Y (column 1, lines 66-68 through column 2, lines 1-19). Exemplary of the compound  $MR_n$  and A are the compounds outlined in column 3, lines 52-60 and column 4, lines 55-59 respectively. In a preferred embodiment of the invention (column 5, lines 42-68 through column 7, lines 1-45), the compound  $MR_n$  is polycondensed in the presence of A and water to yield cluster compounds that inherently satisfy formula (I). The Examiner's assertion of inherency is based on the fact that the synthetic method disclosed by Nass for cluster formation mirrors that set forth on page 7 of

Applicant's Specification. Thereafter, the polymerizable groups Y contributed by A are polymerized optionally with other monomer materials capable of being polymerized with the clusters using a free radical initiator (column 8, lines 22-27).

Concerning claims 5 and 6, these limitations are also inherently satisfied by the reference in view of the similar starting materials and synthetic methodology employed.

Claim 11 is satisfied by Examples 5 and 6 where the quantity of filler corresponds to 0 wt.%.

Claims 1, 4, and 6-12 are rejected under 35 U.S.C. 102(a) as being anticipated by Furman et al., WO 00/69392. Furman discloses the preparation of metal oxide nanoparticles containing any of the metals disclosed on page 3, lines 1-10 with zirconium oxide nanoparticles being preferred (line 11). Upon obtaining a cluster of the desired size, it is organofunctionalized using one of the functionalizing agents outlined on pages 7-11. Notably, the aluminozirconate on page 8 represents a chelating complexing agent corresponding to L-Sp-Z where



corresponds to L and  $\text{RCO}_2$  denotes the polymerizable moiety, and L is absent. Variable R, according to the reference is a copolymerizable alkenyl group. Reaction of this compound with the zirconium oxide prepared in Examples 1 and 2 provide a product that inherently adheres to formula I. (In this instance, the chelating agent is not present at the time the cluster is assembled like it is in Applicant's method. However,

Art Unit: 1712

while this may impact the size of the cluster obtained, it will, nonetheless, be aptly described by formula I.) Upon preparing an organofunctionalized cluster, the polymerizable groups introduced by the organofunctionalization step are subjected to polymerization with appropriate organic co-monomers selected from those outlined on page 15 in the presence of a photoinitiator.

As for claim 6, given that similar starting materials are employed, this limitation is inherently satisfied despite the aforementioned differences in the synthetic method.

Claim 11 is anticipated by the experiment outlined in Example 3.

Other documents furnished by Applicant also anticipate the claimed invention, the omission of a utility in dental formulations notwithstanding. They will not be applied herein as all of the claims are anticipated by the art already cited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1712

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 28, 2004

A handwritten signature in cursive script that reads "Marc Zimmer".

Marc Zimmer  
AU 1712